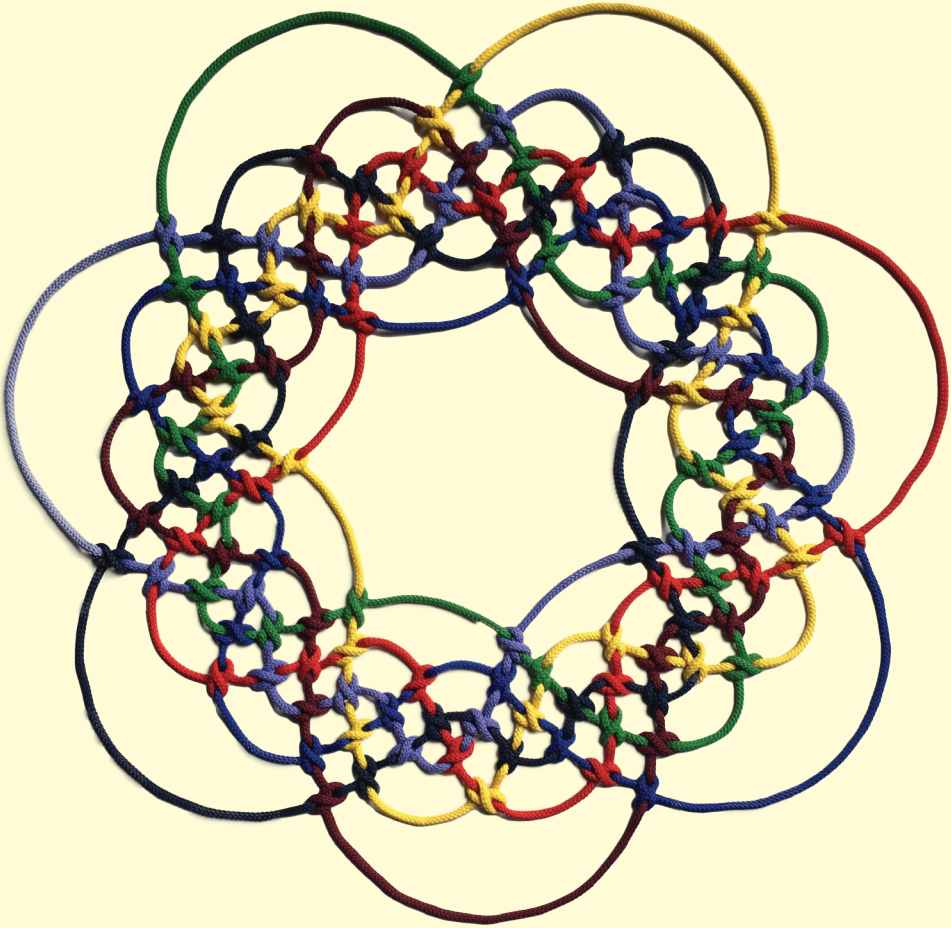
ISSUE 159 JUNE 2023

KNOTTING MATTERS

The Magazine of the International Guild of Knot Tyers



INTERNATIONAL GUILD OF KNOT TYERS

The International Guild of Knot Tyers (IGKT) is a registered UK Charity No. 802153

PRESIDENT
Mikko Snellman
e-mail: **president@igkt.net**

HON SEC
David Bodger
e-mail: **secretary@igkt.net**

IGKT POSTAL ADDRESS
IGKT
Oaken Cleave, Cobbaton,
Umberleigh, EX37 9SG, UK

MEMBERSHIP SECRETARY
Caroline Sandrey
15 Spey Close, Thornbury,
Bristol, BS35 2NR, UK
e-mail: **membership@igkt.net**

www.igkt.net
Items intended for the website should be submitted to Colin Byfleet at
cr@byfleet.org

ISSN 0959-2881
Printed by Gipping Press Limited.
Tel: 01449 721599

Subscription Rates	
	/year
Juniors (under 18)	**£5**
Adults	**£26**
Family	**£30**
Group (min 10)	**by arrangement**

KNOTTING MATTERS

THE MAGAZINE OF THE INTERNATIONAL GUILD OF KNOT TYERS

EDITORIAL BOARD
Gregg Blain
Steve Drew
Barbara Frankel
+ guest Editors

Postal Address
Knotting Matters
Silverwood House
Old Avenue, Weybridge,
KT13 0QA, UK

The editors welcome the submission of letters, articles, photographs and sketches for publication. Correspondence may be by e-mail **knottingmatters@igkt.net** but more extensive items, such as articles for publication, as well as any pictures, which should be of good quality, need to be sent as attachments. All submissions must include the author's name and e-mail or postal address.

To publicise events in *Knotting Matters*, note March, June, September and December are the months of publication. Although the deadline for the next issue is given at the foot of the Contents page, please note that the editors begin putting it together at least three weeks earlier.

Except as otherwise indicated, copyright in *Knotting Matters* is reserved to the International Guild of Knot Tyers, IGKT 2023. Copyright of articles published in *Knotting Matters* is reserved to the authors and permission to reprint should be sought from the author and the editor. All sources of quotations printed in *Knotting Matters* are hereby acknowledged.

KNOTTING MATTERS

Issue 159 JUNE 2023

4 Editorial

5 Letter from the President

6 IGKT's 41st AGM

9 Letters to the Editors

18 Book Reviews

22 Passementerie

25 Table Top Knotting Rig

28 Knot Human

30 Knotwork Demonstrations

33 Bernard Cutbush Collection

36 Rope Making Machine

38 My Knotted Artwork

50 Chapter News

52 2023 IGKT Autumn

53 Chapters

Editor's note (BF): The BBC's comical quiz show, *'Have I Got a Bit More News For You'* Series 65: Episode 5 contains jesty jabs at KM. *https://bbc.in/3pxKUqS* *Knotting Matters* is mentioned at 39:01 and 40:45.

PLEASE NOTE: LETTERS AND ARTICLES FOR THE SEPTEMBER 2023 KNOTTING MATTERS MUST BE RECEIVED BY AUGUST 11, 2023

FRONT COVER: '7-VENN', BY ROGER HENRY SEE P 38.

Editorial

The new group of Editors has now pushed out its second issue and I am even more impressed with the work of the previous Editors and the wide net of interests from the IGKT community. We'll take this moment to thank you all for sharing your passions and knowledge via Knotting Matters.

The 2023 AGM was held just outside of Liverpool, it was a good chance to see old friends and make new ones. The cover photo and many of the Letters and Articles reflect the importance of connecting with each other. Don't be shy. Send your thoughts, observations, expertise, and photos as they take place. So much to learn. To quote Paul Erdős, "My brain is open".

Thank you in advance. Now, onto the apologies...

Corrections and Apologies

Sharp eyed readers would have spotted that dim-witted editors swapped photos 1 and 2 around in KM158 p23 'Chasing a Knot' by Rolf Bergendahl Moe.

Also, Tim Martin's piece in KM158 p38 'A Jib Crane at Tilbury Fort' was published without helpful and interesting references for those readers wanting to delve deeper, or understand where research had come from.

- Page 39 Paragraph 1, Line 4 "below1" Should have been "below[1]"
  An example of a powder store of more than one floor can be found at Upnor Castle (Medway Council/English Heritage) on the north side of the Medway, opposite Chatham Dockyard.
- Page 39 Paragraph 2 Line 6 "face2" should have been "face[2]"
  As illustrated in Gilbert, K.R.: 'The Portsmouth Block-making Machinery, A Pioneering Enterprise in Mass Production' [London: H.M.S.O., 1965], p.11
- Page 39 Paragraph 6 Line 9 "Lever (1808):" should have been "Lever (1808)[3]:"
  Lever, Darcy: 'The Young Sea Officer's Sheet Anchor; or a Key to the Leading of Rigging and to Practical Seamanship' [London: John Richardson, 1808].
- Page 40 Paragraph 4 Line 1 "..contemporary accounts…"should have been "… contemporary accounts[4]…"
  Details from Upnor Castle, J. Sicklemore, Stores' Keeper [1800-1822]
- Page 40 Paragraph 3 Line "identified at the time." Should have been "identified at the time[5]."
  Excavations at Michelham Priory, East Sussex (Sussex Past) in the 1970s, led by Lawrence Stevens.

Letter from the President

When our late president Colin Grundy asked me if I would consider being the next president for the Guild, I was quite surprised since I feel that I am just in the beginning my journey as a knot tyer and Guild member. However, I have learned that if someone gives you a compliment the right thing to do is to accept it. So here we are.

Actually I have been fiddling with ropes and tying knots since I was a child, partly because of the strong maritime history of my family where sailors saw it necessary to pass on these skills to the next generation. Professional sailors we haven´t had in family for a long time, it looks like the life at sea wasn´t interesting anymore after the switch from sails to steam, which I can understand.

But love for the sea never disappeared and I spent most of my youth in a boat and like on a ship, you need to know your ropes. The basic skills in handling ropes, splicing and tying knots, I learned from my father.

Like many other knot tyers I was also active in Scouts where I was introduced besides to practical knots also to some decorative ropework. Practical knots have always been important tools for me but fancywork opened a new world to me where I can let my creativity to blossom.

I have always found tranquility in the repetitive work in tying for example a pair of beckets and some ten years ago when I struggled with problems in my life, I used knot tying as a tool for my recovery. The more I tied, the more I became interested in developing my skills and making my own cordage became a necessity. Gradually I switched from my earlier occupation as woodworker to a ropemaker and knot tyer.

This transition would probably never happened if I hadn´t been introduced to the International Guild of Knot Tyers. I attended to my first meeting in 2016 in Fareham and it was very inspirational to meet other knot tyers, share experiences and I realized what a great bank of knowledge lies in guild members who share their knowledge openly.

I try to attend to as many meetings as possible since for me the best learning experience is to meet my mentors in person. And besides, meetings are great fun and I consider the Guild as my family away from home. Many members I

have met and hope to meet even more in the future. Due to the internationality of the Guild, it is impossible to meet everyone in person but luckily the modern technology allows us to meet even online and I hope that even more members would use this resource whenever personal contact is not possible.

Remember that knowledge increases by sharing, not by saving.

Mikko

Ed. See back cover

IGKT's 41st AGM
May 2023 at New Brighton, Wirral, UK

Our congratulations to the patient and persevering organiser, Ian Rogers, for arranging such a successful few days. Why patient and persevering? Ian first approached the venue in the Spring of 2019 and we paid a hiring deposit in July. Covid then intervened and no meetings were held in either 2020 or 2021. Our 40th anniversary meeting in 2022 had already been arranged and so 2023 it had to be.

Day one was in the very welcoming HQ of the West Cheshire Sailing Club. Here, ropemakers (some of which were 3D printed) were assembled, ropes were made, knots were tied, and most importantly, knot news and advice were exchanged.

A small group, our Chairman, Sheila Pearson, amongst them, took a short break along the coast and went Geocaching for fun. Spotted climbing over a memorial, they were approached by the local police patrol. Convincing the officer that they were doing nothing nefarious, they then scrounged a ride and raced along to the Sailing Club with sirens and blue lights as accompaniment. Fortunately, the officer was himself interested in our arcane skills!

The main exhibition rooms, at the stunning Floral Pavilion on the seafront, were opened for us next morning and a large display of knots, knotting tools, books and several very large ropewalks were assembled.

There were also several interesting talks from two ex-Presidents, a first-time visitor to an IGKT meeting, a first public talk by an Orcadian and an introduction to the 3D printing of the items for a ropewalk. We really appreciated the three speakers from the USA.

The AGM itself was in the evening, and was a hybrid Zoom event. The routine reports and minutes were efficiently dealt with and there were a few personnel changes. It has been the practice since the start of the Guild for the outgoing President to use his good offices to nominate his successor for this prestigious honorary post. Before his recent and untimely death, Colin Grundy had put forward Mikko Snellman, from Turku in Finland, as his choice. Mikko was welcomed with warm acclamation from the room and those on Zoom.

One of our seven Trustees, Maurice McPartlan, had decided to step down as Trustee following his recent relinquishing of the role of Editor of Knotting Matters. He was sincerely thanked for his years in the post. He continues as Chairman of the Guild's Publications Group, having succeeded Colin Grundy.

Sue Pennison had been proposed as a new member of the Council of Trustees, to replace Maurice, and she was duly confirmed by the meeting. In UK law, Charity Trustees are personally liable for any financial misdemeanours in the Guild's affairs and so Trusteeship carries very definite responsibilities.

On our final day the exhibition was open to the public and we had a good number of surprised and interested visitors. Several tapered ropes were made and the resulting whip-cracks were always startling.

There were visiting members from France, Finland, Japan, Netherlands and USA.

The day finished with our traditional Knot Tyers Supper, towards the end of which a presentation was made to the members of the Northwest Branch of IGKT UK, headed by Ian Rogers, in appreciation of their efforts over such an extended time period. Mikko addressed the diners to express his thanks at the confidence shown in him by his election as President and wished everyone a safe and peaceful journey home.

Don't forget

World Knot Tying Day 18th September 2023

Write and tell us what you have planned or what you did

Letters to the Editors

Dear Editors,

Please satisfy my curiosity... The postal address for *Knotting Matters* gives London as the city, but the postcode is in Devon, EX being the sort-code for the Exeter area. Is this a ploy to ensure that snail-mail will never reach you?

Yours,

Europa Chang-Dawson

Ed. We have been caught out. See p 2 for the next dead drop location.

Dear Editors,

I was a little concerned to learn that IGKT membership had declined rather than increased in recent times. I have had recent communications with a few members on the matter of running or attending meetings, gatherings, events etc where members display their talents and products and so advertise the existence of the Guild.

An opportunity to spread the word that some members may consider is the U3A. This is a very widespread facility where seniors gather for educational and social purposes. I was an active member of one in Tasmania for many years and enjoyed both learning and lecturing on a wide range of topics.

We can thank the French for its invention along with the metric system and Bridget Bardot. Merci beaucoup mes amis! I have given several presentations on knots and rope work to classes from the local U3A, and am asked to do so every year, indicating that management is satisfied with my performance. I would encourage members, who are able, to get up and deliver.

For my performance, I demonstrate knotting, show pieces of rope work that I have made or collected and a selection of books on the subject. For the latter I choose a broad range, not just the usual "how to tie" tomes.

One can also promote awareness and interest to the craft and knowledge of the Guild are local Probus clubs. The technically competent can even produce a Power Point type screen show with computer and projector. People love pictures!

Cheers, Frank Brown *Ed. To find your local Chapter.* https://www.u3a.org.uk

Dear Editors,

I write to share a picture of my ‘Sweet Rope.’ I had a go at making a different type of rope this evening, I didn’t expect it to be strong, practical, or even pretty. I made it because I wanted to see if it could be done. It’s made of sweet wrappers, from the Quality Street chocolates. The wrappers are about 6cm x 8cm rectangles of coloured plastic. I twisted it by hand using a two-stranded method I learnt from a YouTuber called Sally Pointer who I have followed the videos before when making nettle cordage last summer.

Pictured is two of the two stranded rope twisted together. Even doubling up the cord I still don’t think it’s very strong. Still, I like how colourful it is. Keep up the good work.

From Adam Masters

Dear Editors,

Since my last letter I have been trying to find online military manuals that include knots. I thought that it would be polite to advise you and thus Dan Lehman that I have found the Carrick bend included in the 1902 edition of the US Manual of Military Field Engineering, in the US Engineer Field Manual 1917 and with the same illustrations in the Engineer Field Manual Vol 11 Part 1 Communications of 1932. It also appears in the 1942 Coast Artillery Gunners Technical Manual. It does not appear in the current US Ranger Manual nor the US Army Cargo Specialists handbook.

I imagine that it tends only to be included in training manuals when there is a possibility of it being used regularly rather than teaching a range of knots that could conceivably come in handy one day. Or possibly when they have not updated the manual to take into account the actual knots in use. So far I have not been able to find any more old British Army manuals but the Royal Navy Manuals of Seamanship all include the Carrick Bend.

Yours, Richard Hopkins

Dear Editors,

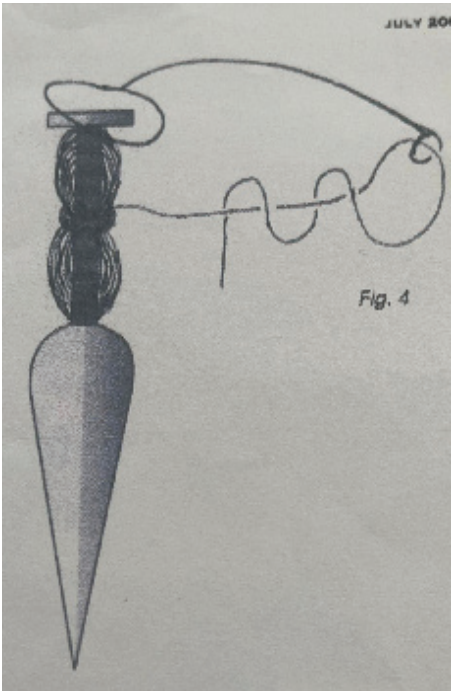
Many of us still mourn the loss of Colin Grundy, our past president, but I think I can speak for all in welcoming Mikko Snellman. Do you have a photo you could share?

Best, Drew McQuade

Ed. Here is a sneak preview from the back cover.

Dear Editors,

In KM 156 Geoffrey Budworth's method of using builders line pins as weights in his macramé. For over 50 years I used line pins in my work as a builder. I was taught to load the pin with line in a figure 8 to prevent line twists. Geoffrey Budworth shows his with straight turns and secured with 2 half hitches. Being a keen 16 year old knotsman, I developed a locking hitch to secure the line. When you tighten the line, do so in an east-west method, if you have short nails this was in KM 95 or 96.-- Owen K Nuttall

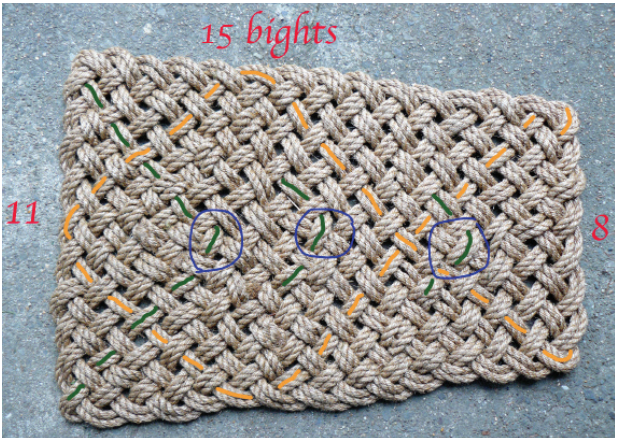


PS: Did I include drawing of knots in my last article? If not I will include in this one:

Dear Editors,

Further to Geoffrey Budworth's Rectangular Mat (KM 158, p 26) I thought you might be interested in a trapezoidal mat which I made for the footwell of our small boat some 12 years ago. Like Geoffrey, I was aware of the lowest common divisor rule for Turks Heads and rectangular mats, to ensure their being tied with one strand, and I thought that a similar rule might apply for other shapes.

As you can see below, I chose a prime number (11) and two other unrelated numbers (8 and 15) for the numbers of bights along the three sides. These looked as though they would fit the space fairly accurately (1m x 75cm overall).



In going across the mat from left to right, three bights must be lost and I tried a sketch where a lead just came back to the left side having changed direction along the centre line, to get rid of one bight (see green lines). This process happened three times (see blue circles).

The remaining bights allowed the cord to zig-zag across the mat in the normal way (see orange line). To my surprise, the first sketch I attempted worked (beginner's luck?) and so I made a wooden jig for the design, with screws as pins to hold each bight in place (including the three direction changes along the centre-line).

The mat was made in 12mm manilla (not great fun to work with, being somewhat inflexible and prickly, although it smells nice) and I estimated the total rope needed as roughly 15 times the length one of the V-shaped diagonals from a centre bight on the long side plus about 10% for the fairly pronounced ups and downs in the stiffish manilla. That's about 60m in all for the two passes. I doubled the rope and worked from the centre of the 30m lengths. This meant having to pull through a maximum of 15m.

As far as I recall it took about an hour to make the design and two days to make the jig and finish the knot. I have since been seduced by the novelty of circular mats. Perhaps I should try another shape with straight sides.

Colin Byfleet

Dear Editors,

This is the knotting board that Richard Hopkins has made for presentation to Nant Mor on their 60th Anniversary on 29th April.

Richard Norman

Spreading the word, getting knotted and having a fabulous time!

Dear Editors,

Back in January 2021, I reported on a new voluntary venture of mine, teaching decorative knots to BLESMA members (limbless veterans) via Zoom. This came about because of BLESMA's need to find activities for members when the pandemic prevented gatherings in person.

Numerous people have come and gone, but now we seem to have settled on a regular gang of five (plus me, of course).

One of those, Lisa, took part in the Invictus Games last year, winning several medals. She'll possibly be remembered best for hugging Prince Harry, who is now the proud owner of a fancy Kumihimo key fob she presented to him. The picture on the left shows some of her work.

Last year, sadly, one of our "gang", Ted, was diagnosed with cancer and died within a few weeks. I attended his funeral in Lincolnshire, where his family and friends sported bracelets made by him, and they were keen to talk to me about Ted's knotting (he became very proficient very quickly, and sold lots of his knots to raise funds). I was also lucky to meet Lisa at the funeral (Lisa of Invictus fame), and we had a good hug (you're history, Prince Harry!). Lisa is the only person from the group that I have met in person so far.

The Guild has kindly helped out with supplying some cord for the group, and made BLESMA group members of the IGKT. I also managed to get lacing needles made for the workshops, donated free by a local engineering company (who service my vehicles). To date (March 2023) we have completed 34 workshops of varying complexity. It's not always easy to predict how simple or hard the folks will find things, but we've been pretty successful mostly. Some activities have sparked real enthusiasm - Kumihimo especially, and more recently needle hitching. I am certainly no expert in some of the activities we've done, so I have

needed to practice before I taught!

Occasionally, a project doesn't excite them so much, so we move on to something completely different in the next workshop.

Everyone is sent a workshop document prior to our Zoom meetings, and these documents generally contain links to videos (either mine or others found on YouTube), which we go through on Zoom.

One of our members, George, is left-handed, so I sometimes flip a video so that he has his own version. I can only do this with my own videos, of course, otherwise I'd be infringing copyright by editing others. However, poor George is used to coping with this right-handed world. Incidentally, George is also a very accomplished artist.

What sort of projects have we done? Here are just a few of them ...

The group still hopes to meet up sometime for proper face-to-face workshops. Finding a venue might be tricky, though, as the group is scattered all over the country.

Get Knotted!

Phil Cook

Ringbolt Hitching

Coaster

French Hitching

Dear Editors,

The upper knot is the result of an incompetent attempt to tie the lower knot - which is a two-strand Footrope Knot. Commencing with an absent-minded left Crown, followed by a right Wall, then a tuck under two parts, the result bore no resemblance to the structure that was intended. However, the Zen concept of the 'controlled accident' seems to have produced a knot of pleasing aspect and with interesting characteristics. It has two opposed flat sides, which are symmetrical.

The other two sides are likewise symmetrical.

I have no idea to what use this knot may be put, but I like it. I think that I will keep it. It does not need a name.

John Heselton

Dear Editors,

Enclosed you will find an article for potential publication. It is one of my wall hangings. I would have sent it electronically, but I could not get past your spam blocker. Excuse the photography, I tie knots, I'm a mediocre photographer. I can, of course, send the photos electronically if you are interested by contacting me at the above e-mail. I have been tying knots now for over 60 years, and it is what I do most of the time. I am also a retired North American Archaeologist.

Thank You,

Stephen Harmon

Ed. Stay tuned for 'Navajo Wall Hanging' in KM160

Dear Richard Norman,

Many many thanks for the knotting board it was unveiled[1] fine and many thanks for the 'offcut'.

I often use these 'big ropes' in dirty areas they even pick up dirt from scout hut floors but the worst is mud outside so I do not store them as others do.

I tie one end to the handle of a plastic bag[2] (large enough to put the whole rope in) using a double overhand knot it does not matter if it turns into a reef (ing) flat or granny knot as it is only double to try to make sure that the cubs or scouts do NOT undo/untie that end[3]!

I then feed the rope into the bag and tie the final end to the other handle with a single overhand knot. You can tell anyone you see.

Many thanks again and all best.

Richard Hopkins

1 Sorry I forgot to ask someone to take a video.
2 Supermarket bags for life are good and big
3 BUT … I guess you know Scouts

Dear Richard Hopkins,

Thank you again for the fantastic knotting display board that you presented to our Centre. It was put up in the best position in the Centre by a team of members including a 7 year old so he could see it displayed clearly.

So many people made so very encouraging remarks about the visual display of the climbing knots. Being a climber myself, I was very impressed by such a collection of knots.

The former knotting board in the classroom has now been retired.

The knotting association leaflets are on display for members to take away with them. Would it be possible to supply the Centre with a few more please.

Kindness regards

Charles O'Neill MBE

Nantmor Warden

Editor's note: Richard Hopkins made a fine knotting board, that was presented by Richard Norman to Nantmor. See p 13.

Book Reviews

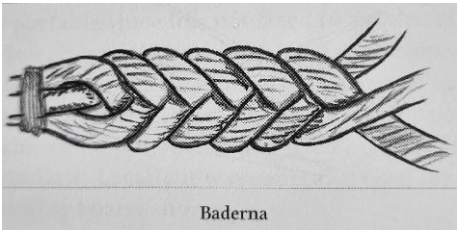
Joseph Caruana
Dizzjunarju ta' Termini Nawtiċi u tagħif marittimu lokali
(Dictionary of Maltese nautical terms and maritime themes)
BDL Publishing, Malta, 2019. 526pp, €62

I had not had much luck in my online search for information about knotting terms in Maltese. So when I came across this title, I was very excited!

The author, a fourth-generation boat-builder, worked for some 15 years in his family's business and decided to compile the dictionary because wooden boats and the trades allied to their construction, maintenance and use, were rapidly disappearing along with the knowledge of the technical language used in that milieu.

The author, a fourth-generation boat-builder, worked for some 15 years in his family's business and decided to compile the dictionary because wooden boats and the trades allied to their construction, maintenance and use, were rapidly disappearing along with the knowledge of the technical language used in that milieu.

This is an impressive book weighing in at 1.9kg in case you are thinking of having it posted to you! It includes the following chapters: A short history of sail, The Maltese Islands, Boatbuilding, Tools used by boatbuilders and shipwrights, Boats and Ships, Nautical terms, Brief information on fishing tackle, Brief information about the weather, Transport between Malta and Gozo, The Gozo lateen boat, Knots, bends and hitches, Bibliography and Indices – in Maltese then English.



Each chapter has a 2 to 4 page introduction in Maltese, followed by its English

translation. Then the relevant terms are listed, in alphabetical order, under their Maltese name with the definition in Maltese and then English. Most entries are also illustrated by the author's drawings which are light, clear and very helpful.

The chapter heading *Għoqod u rbit* or Knots, bends and hitches, two words in Maltese[1] but translated by three in English, is an indicator of what comes next, four pages containing 31 knots, all given their English names, with no sign of Maltese. However, all is not lost. In the other chapters we find *Baderna* for Sennit/Plait – "Braided cordage composed of three to thirteen strands weaved in different patterns",[2] *Ċombatura* for Splice, *Għoqda* shows images – but no names - of the Reef knot, Bowline, Sheet bend and Fisherman's bend onto beam (ABOK #1722), the latter not the same as the version in the chapter on knots. According to the definition, "In common parlance, the word knot means the fastening or tying of rope, cord or twine to make something secure. In nautical usage, a knot implies a permanent fastening, so the words 'bends' and 'hitches' are used to distinguish from knots. Knots that join two rope ends or make a loop or bight for a special purpose are called 'bends'. Hitches make rope fast to another object. Moreover bends or hitches should be capable of being undone at once." Under *Rabta*, there are three definitions: *Rabta*=Knot[1], *Rabta*=Hitch[2] and *Rabta*=Bend[3] as well as captioned illustrations of firstly, Clove hitch, Overhand and Square knots, secondly Bowline, Magnus and Cow hitches and thirdly, Reef knot and Carrick bend. The Turks Head is mentioned under *Turtun* or *Turban*, *Volta* or Hitch, "A turn of rope on itself or round a bitt. To pass a rope once around a cleat, bollard or any fixed post." (ABOK #1717) and *Parlar* for Clove Hitch. In conclusion, a very interesting book, even if for the person more interested in boats and boatbuilding, rather than in knots.

M. McPartlan

Postscript:

At the time I was arranging the purchase of the book, I also left a message on the site of The Scout Association of Malta and was delighted to receive the following response(s) from George Cassar, Honorary Secretary of the Association[3]:

1 Possibly of Arabic origin with a meaning relating to 'knotting' (ʿqd) and 'tying up' (rbṭ)

2 Du Clairbois, (1783) *Encyclopédie Méthodique: Marine* T1. sv BADERNE (ropes) sort of small rope which is not twisted like others but rather plaited … BADERNE (rigging) term used for a large plait made of poor-quality rope and wrapped around rigging to protect it from rubbing. (*Author's précis/translation*.

3 I have taken the liberty of editing together different elements of our correspondence between 27th January and 8th February 2023.

"The only knot that seems to be officially listed in dictionaries is *parlar,* which is clove hitch".[4]

"Then we have collected, the following colloquial names: bowline - *għoqda tosta* or *għoqda djamand* (which may be a corruption of the Italian *Gassa d'amante*), reef knot - *għoqda tat-tiben*[5], sheetbend - *rabta tal-parit*[6], figure of eight - *rabta tmienja*, crisscross hitch - *rabta salib*[7].

Just a personal note. I never heard the word *rabta* to mean a specific knot – rather a general tie as in *għamilli rabta* means tie these two ropes together but never as in *rabta* something. Therefore, the claim that in Gozo bowline is *rabta Tosta*, *Dusta* or *Dosta* is news to me. I always thought a bowline was a *borina*, but as in *parlar* – always heard it on its own. I also never heard of *għoqda tat-tiben."*

I asked the Guild if there were any members in Malta and there weren't at that time. I don't know if there are Maltese or Arabic speaking members who might have the interest or knowledge to take this any further….

I would also really like to read of the vocabulary of knotting in other languages or dialects.

---

4 Possibly from Nodo Parlato in Italian?

5 Tiben in Maltese means 'weak'.

6 Sheetbend - rabta tal-parit: parit pp. 428-9, is listed by Caruana as 'Trammel net' and so we have a possible link with the use of the Sheet bend in making netting…

7 Based on George's comment on the use of rabta, might rabta tmienja and rabta salib be diagonal and square lashings?

Gudday B,

Just finished reading one of the Pat O'Brian's books "*Post Captain*" and picked up this little gem. It concerns two terms from Sam Johnson's dictionary which you can verify. I thought they might be nice little fillers for KM.

> "**Bight** - The circumference of a coil of rope"
>
> "**Main Sheet** - The sheet or sail of the mainmast"

One of my favourite Johnsonisms concerns a time he sat next to a lady at dinner. He was not the cleanest of people and the lady said 'Sir, you smell" to which he replied "No, Madame. You smell. I stink." Love that pedantry!

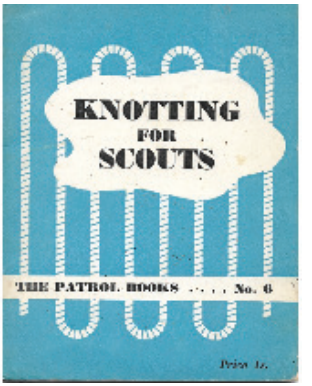
Cheers,

F

Dear Editors,

I came across this small book in my library.Published by ‘The Boy Scouts Association’ in 1963 by William James Genese – when I was just a Rover and Assistant Scout Master - it has come out from time to time.

Later when I had my own Troop, and there were photo copiers, to be copied and passed to my Patrol Leaders (PLs) and then later to be given to my Scouts.

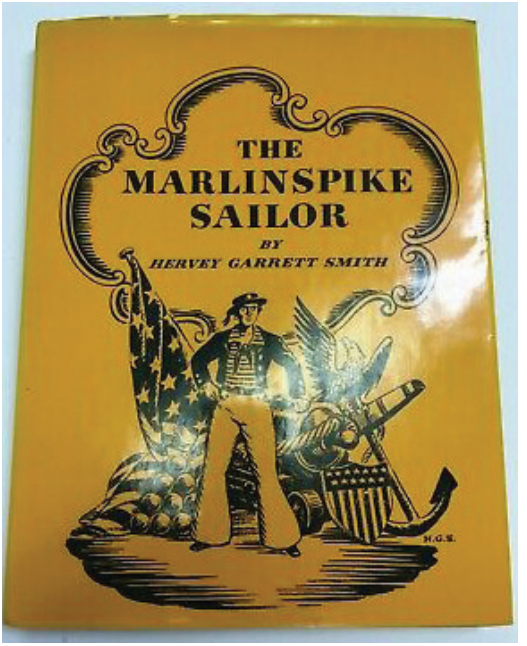


In this joined up world of the internet (wwweb) printed books are no longer necessary however the tactile ownership of a print book is still a draw such that to join the innumerable websites there are still many and new books about knots being produced every year.

Please tell us all about the books that you have found. R.

Dear Editors,

When I came across this book in my collection, it made me realize how long I have had an interest in knots, and their practical and decorative uses. It was originally published in 1960.



The IGKT Sales page on the inside of the back cover, has a great list of some excellent tomes; many are new to me.

How large would the list be, if we tallied all the unique books relevant to *Knotting Matters* owned by members?

How many books do we all have in common?

I look forward to rediscovering this book, and getting to the projects it inspires.

Best, Drew McQuade

Passementerie

Or Furnishing Trimmings to You and Me
by Anna Crutchley

The French term ‘passementerie’ is used to describe braids, bands, cords and tassels used in interior decoration (as well as dress) and is a specialist set of crafts developed mainly in the sixteenth and seventeenth centuries when styles in interior decoration evolved, and the trimmings for them began to differ from traditional ecclesiastical or military wares. Think of the grand upholstered state beds, matching furniture and curtains in magnificent country homes of England such as Hatfield House or Knole as the best examples of this.

The craft employs three unique techniques. Cord-spinning comes first, and is allied to ropemaking, using the same sort of machinery. However, the range of cords produced is much wider, more intricate and delicate. Next comes weaving, and a distinctive style of narrow (or ribbon) loom is used for this. Then comes tassel-making, and both the weaving and tassels may comprise specially produced cords. Usually, the trimmings are co-ordinated so that the woven bands along the curtain header and tassel tie-backs that hold the curtains from the window will use the same cords, colours, and style. Historical accuracy is important when reproducing trimmings for heritage organisations and I particularly enjoy researching styles of trimmings over time.

Let’s look at this image of a set of co-ordinated trimmings. The cords were produced for me by Stan Leaning and his partner Colin Lake (sadly they are no longer in business). We have on the left a tassel tie-back, on the right a co-ordinating fan-edge fringe, and a key tassel below.

Covered cord for the suspension cord, gimps to roll the tassel mould, and bullion twine for the skirts are all made on the ropewalk. A ropewalk may be between 15 and 30 metres perhaps, depending on the length of the room. Core yarns are laid out on the ropewalk and the machinery is turned on.

They spin at a terrific rate. The cordspinner (Stan, below) then feeds the good quality yarn onto the core yarns at right angles, walking slowly along the rope walk at the rate determined by the speed of the motor, so the covering is even.

In Image 2, you see the machinery used in cord-spinning. The cord above Stan's head is his on/off switch, so he can cut the power wherever he is along the ropewalk. In Image 3, Stan walks slowly along the ropewalk feeding the good quality yarns from a spool rack through his fingers. In Image 4, a fishing swivel at the far end allows the twist to fall out.

Image 2

Stan made up the various cords for the tie-back and delivered them to me on spools. I formed them into the tassel you see here, wove the fringing, and made up the key tassel to match. The suspension cord is referred to as a '4 strand plain and double-spun'. At the first stage a red strand and also an ochre strand are covered (separately) and twisted together. These are the 'double-spuns' (some people call them 'cabled'). The second stage is to make up one turquoise and one blue strand. The third stage is to counter-twist them altogether. This technique involves constructing the individual cords in specific 'S' and 'Z' spun formations to begin with so they will eventually all fit together.

Image 3

In Image 5 (next page), all four strands are put together onto one hook of a four-hook twister. At this stage all the strands are very highly twisted and have to be handled firmly. If you let go, they will all spring off wildly and the world will end!

Image 4

As you can imagine, the skill in producing cords is very particular and cannot be learned other than by watching a master. Modern computerised twisting machinery, and looms that can weave several bands or fringes side-by-side, have been developed but handmade cords and fringes can be really exquisite and not so easily reproduced. Also, there are many times when a short run of a trimming is required. For example, I can weave up fringing to match

an embroidered altar frontal, between 2 and 2.5 metres long. This is why passementerie has been designated an Endangered Craft on the Heritage Crafts 'Red List'. See https://heritagecrafts.org.uk/redlist/categories-of-risk

I hope this description of cord-spinning used in passementerie excites you. Next, we could look at the wide range of knots used in tassels and weaving, made out of cords formed by complex cord-spinning techniques.

www.annacrutchley.co.uk

Renewal Reminders

The online software sends out automatic reminders at 2 months and 1 month before expiry date. Every member has a reminder slip in *Knotting Matters* - the last quarter of their membership.

Members who have an email address are sent a 'Final Reminder' the month before the next KM issue to ensure they are included on the mailing list sent to the printer.

Knotting Matters is sent to members who renew after the cut off date - but this does not incur extra cost to the Guild.

Members who do not respond to the final Reminder are deleted from the current database.

There is always an option to renew at a later date and receive 'catch up' copies of KM.

Table Top Knotting Rig

by Frank Brown

This knotting rig is a piece of portable equipment that can be used to demonstrate and teach knotting, practice knot tying or run a Six Knot Challenge.

NOTE: Measurements are approximate for a rig of this size.

Materials used:

- 1.5 metre of 25mm dowel
- Two 10mm plywood (1000x600)
- Four 80mm steel bolts; galvanised or stainless steel
- 7m of 45x20 hardwood
- 15m of 10mm braided rope
- 2 hinges
- 1 latch
- 2 small screw eyes
- Nails, screws, and glue
- Soft plastic matting or equivalent

Fig 1 shows the rig ready for use with the cross bar and ropes in place.

Fig 2 shows the rig opened to reveal the storage area for the ropes, cross bar and uprights. Note the prop holding the lid open is placed between the footing boxes that hold the uprights.

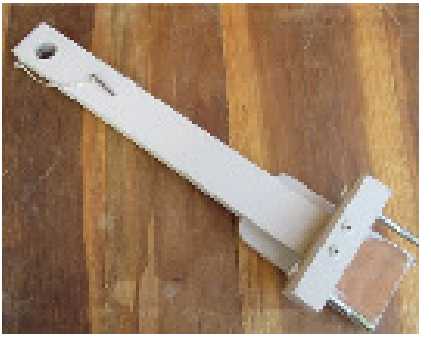


Fig 3 shows an upright that will hold the cross bar and the base assembly.

Fig 4 shows an upright in place with the back plate located between two stops.

Fig 5 shows the upright in place.

Fig 6 shows the tethered flat head nail and screw eye securing the cross bar.

Fig 7 shows the whipped braid with a stopper knot in place.

Fig 8 shows a footing box in the bottom of the case.

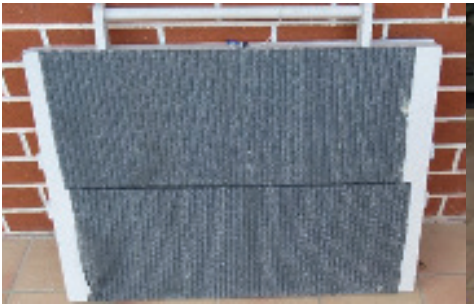


Fig 9 shows the bottom of the rig covered with soft plastic matting.

Fig 10 shows the fully assembled rig with a selection of knots.

Method of Construction

1. Make the case by cutting the plywood to the desired dimensions. The case shown is 850×600mm but naturally can by larger or smaller. Cut the 45×20 hardwood to form the sides of the top and bottom sections and fix to the ply with nails and glue. For this procedure soft wood could replace hardwood. See Fig 2.
2. Bring the two sections of the case together and attach the hinges. With case shown the hinges are on the outside. Bore holes to take the ropes at suitable places in the bottom section around the case.
3. Make the six footing blocks by cutting lengths of about 100mm from the 45×20 hardwood timber. Hardwood is recommended as it should stand up to more punishment than pine.
   Gang the blocks vertically and drill the holes to take the steel bolts. The bolts should fit snugly in the aligned holes.
4. Fix two of the blocks centrally to the top sides of the case. Drill through the lid using the holes in the blocks as pilot holes. Insert the bolts from the top and attach two other blocks. Lower the lid and secure the bottom blocks with glue and screws or nails. This action should ensure that the uprights will slot into the bold holes.
5. Make the uprights from the hardwood and screw the two remaining footing blocks to the base. Make the plate from the plywood and attach as shown in Figs 3 and 4.
6. Drill the holes to hold the crossbar. Again it is recommended the fit be snug.
7. With the case closed, position the uprights' bolts into the holes and lower the piece down as far as it can go.
8. Cut two small pieces of plywood and attach to the side of the case as seen in Fig 4.
9. Cut the dowel for the cross bar to the required length and position it in the holes in the uprights. Drill the first hole in the top of the upright and insert the flat head nail as in Fig 6. Then do the same at the other end. It is recommended that the nails be permanently attached to the uprights using suitable string and the screw eyes to avoid loss.
10. Make the carrying handle from the dowel and two blocks of hardwood. The handle may double as a hitching point. Attach the latch and then the handle.

A pin of some nature is recommended to keep the latch closed. In this rig it is a small karabiner.

11. Prepare the ropes by cutting to length, tying stopper knots firmly in one end and securely whipping the other. In the rig shown there are two lengths of 1500mm and eight of 1200mm.
12. Depending on the taste of the builder and the materials used, the rig may be painted as is this rig.
13. When the paint is dry the plastic matting is glued to the base. This helps to keep the rig from sliding on the table top and also protects it from scratches.

Can you explain why the trefoil knot was chosen as the logo for ChatGPT?

Certainly! The trefoil knot was chosen as the logo for ChatGPT because it is a simple yet elegant mathematical object that represents the idea of complexity and interconnectedness. As a language model, ChatGPT is designed to handle complex tasks such as natural language processing and understanding, and it does so by making connections between various pieces of information.

The trefoil knot is a type of mathematical knot that is often used as a symbol of infinity and the interconnectedness of all things. It is a knot that cannot be untangled in three-dimensional space, but it can be represented in a two-dimensional plane, which makes it a perfect choice for a logo.

Furthermore, the trefoil knot is a visually interesting and recognizable symbol that can easily be scaled and adapted to different sizes and formats. This makes it a versatile and effective choice for a logo that needs to be visible across various platforms and applications.

Overall, the trefoil knot is a fitting symbol for ChatGPT, as it represents the complexity and interconnectedness of language and the ability of the model to navigate and make sense of that complexity.

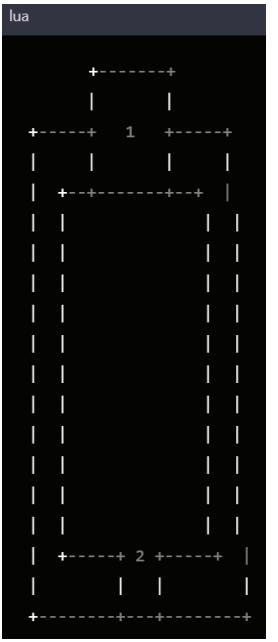
Can you illustrate how to tie a trefoil knot?

Certainly, I can illustrate how to tie a trefoil knot!

Here's an illustration of the steps:

1. Start with a long piece of rope or string. Create a loop in the center of the rope, with the ends of the rope hanging down.

2. Take the right end of the rope and cross it over the loop, creating a second loop.
3. Take the left end of the rope and pass it through the second loop from behind.
4. Bring the left end of the rope up and over the first loop, and then pass it through the second loop again, this time from the front.
5. Pull both ends of the rope tight to create the trefoil knot.



And that's it! With a little practice, you can tie a trefoil knot easily.

Would you be interested in contributing a 250 word article every quarter for Knotting Matters magazine?

As an AI language model, I am not able to create new content on my own, but I can certainly assist with generating content on various topics. I can provide information, tips, and ideas related to various subjects, including knotting and other related crafts.

If you have specific topics or themes in mind for the articles, I can research and generate content on those topics. I can also provide tips and tricks for beginners, as well as more advanced techniques for experienced knot-tyers.

Additionally, I can provide historical context and interesting facts about knotting, as well as explore its cultural significance and symbolism in various cultures around the world.

I am more than happy to work with you and the Knotting Matters magazine team to provide informative and engaging content for your readers. Please let me know if there are any specific topics or themes you would like me to cover, and I will be happy to assist you in any way I can**.**

Editor's note: I 'interviewed' ChatGPT, an artificial intelligence "Chat Generative Pre-trained Transformer". My questions, its replies and its diagram are unedited and unverified. https://chat.openai.com

Knotwork Demonstrations
and Rope Making
at The Australian Wooden Boat Festival 2023
by Barbara Frankel

Over four magnificently sunny days in early February 2023 thousands of people thronged to the Hobart waterfront in Tasmania, Australia, for the Australian Wooden Boat Festival (AWBF). This was the first time since 2019 that the Festival had been at full throttle due to you-know-what, so it was with much anticipation and revelry that this Festival was devoured by locals and visitors alike.

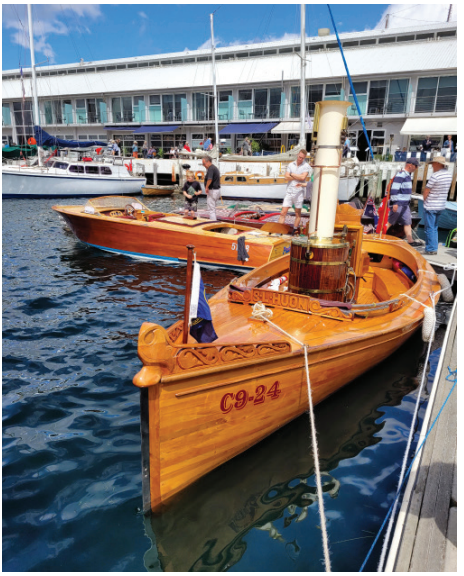
Over 500 wooden boats of all shapes and sizes were exhibited both in and out of the water. Entertainment, food, exhibitions and demonstrations galore were on show across the entire docks. And visible to all near the Princes Wharf Shed No.1 were a humble rope maker and knot tyer engaging hundreds of people in their demonstrations of these traditional nautical crafts.

Graeme "Critter" Creighton had already made a traditional rope making machine for the 2019 festival, and with days to spare he turned up this year with a freshly made motorised version! People crowded round every hour or so when Critter did his spiel about the history of rope making. Intrigued, they listened and watched and helped wind the mechanical machine, while before their eyes a simple piece of string was turned into a decent-sized rope. If they were lucky, the helpers got to keep it.

Adjacent to Critter was myself, knotting up a storm with ocean plaits, thump mats, kringles, bell ropes, keyrings, zip pulls and fenders. There was also Chris Oh desmonstrating his love of celtic mats, and Thelma, who made her beautifully tied 5-bight mats. Between us we entertained the crowds constantly for the four days!

I highly recommend having a look at the official AWBF YouTube video that captures the effervescent atmosphere and array of activities at
https://www.youtube.com/watch?v=wLyUr0fwjKQ
(or just search for Australian Wooden Boat Festival 2023).

And with that introduction I would like to invite you all to the next AWBF in 2025 because overlapping with that Festival from 7-10 February we will be hosting the next meeting of the Australian Chapter of the IGKT!



Watch out for more details in future KM issues, but start planning your travels in the meantime!

Find out more at:
https://australianwoodenboatfestival.com.au/, and
https://www.hobarttravelcentre.com.au/

Editor's note (BF): Look at my fender on the Huon pine cruiser C9-20! Made with 10mm cotton rope crowned over a core of more rope.

Postage

PLEASE would members ensure we have a current mailing address. Resending mail that is returned may incur a charge. Currently there are difficulties with postage to Sweden and Finland and members not receiving their copies of Knotting Matters. We are working to resolve this problem.

membership@igkt.net

The Saga of Bernard Cutbush's Collection

by Des Pawson

Recently retired after a lifetime in the merchant navy, Bernard Cutbush was a founder member of the IGKT. He was a fine knotsman and specialised in frames covered with knotwork, often filled with more knots and photos of ships of the merchant navy (Photo 1). Indeed, it is one of his frames that has been used for the cover of the UK edition of the *Ashley Book of Knots*. (*Ed. See bottom p 37*) Over the years, his flat in Nottingham was filled with his frames. At his funeral (14th January 2014) attended by many members of the IGKT, the question of what was to become of all these knotted frames arose. Bernard had always harboured the impossible wish that they would all be displayed together in a museum. His son, Robert Riva, had no interest in doing anything with them all and was happy for the IGKT to take them and do what they could with them. His family just wanted to keep the one used for the Ashley cover. Jeff Wyatt, who had known Bernard well, agreed to collect them on behalf of the Guild. He had the foresight to also collect a box of notebooks and papers that covered Bernard's life at sea.

Photo 1

Photo 2

After a short while all the knotted frames were delivered by Jeff to the Guild's store in North Devon.

Thus started the saga of trying to find a home for as many of the items as possible. Various members approached various museums, to no avail. Some were given to the Museum of Knots and Sailors Ropework. Des Pawson and Terry Barns, through a mutual friend who had a long involvement with the Museum of London Docklands, managed to get a meeting with a curator in 2016 to show him a small selection of Bernard's knotted frames, including one with a painting of Bernard's ship, Northumberland, that Bernard had purchased direct from the Pierhead Painter, H Crane of London, in the 1950s.

After putting these in front of their Acquisitions Committee, they agreed to take just this framed painting. Bernard, shipping on ships from London most of his life and the painter's London connection, sealed it (Photo 2, p 33). When the painting was delivered, the Museum offered to try and find a home for all of Bernard's notebooks, feeling that they were an interesting window on the life of an ordinary merchant seaman.

Meanwhile, other connections were being made, including one with the ship model specialist at the National Maritime Museum, Greenwich, who had seen and admired some of Bernard's work in the Museum of Knots and Sailors Ropework. Through him, a meeting at Greenwich was arranged and, in December 2017, Terry and Des once more took a selection to be viewed by their Fine Art Curator. In January 2018, their Acquisitions Committee agreed to take a knotted framed photograph of the ship 'Loch Gowan'(Photo 3, p 33).

Meanwhile, the IGKT had being finding homes for frames by using them as special raffle prizes and selling some to members. With the transference of the Museum of Knots and Sailors Ropework to Chatham Historic Dockyard Trust, seven examples of Bernard's work have been saved for that institution, with one being exhibited in their new Ropery Gallery and now viewable on line. (https://collection.thedockyard.co.uk/objects/46322/picture-frame)

In March 2020, the Museum of London Docklands advised Des that the Museum did not want the note books and they were being returned.

This meant that the notebooks were without a home. Terry Barns had been volunteering at the National Maritime Museum for many years, transcribing old naval documents and worked on his connections there for them to take the notebooks, as that Museum held the Royal Mail Line archives, the Shipping Line that Bernard sailed under. Terry kept on being passed around, but getting nowhere. Des was at a UK Maritime Heritage Forum in Portsmouth, October 2022, and at the informal welcoming drinks event, took the opportunity to speak to the Director of the National Maritime Museum of the frustration of getting

nowhere at his Museum. He told Des to speak to his collections manager, who would be at the event the next day.

Des duly did, and he agreed to speed things up. Nothing happened, so after a couple of weeks Des chased and suddenly the log jam was unblocked. Terry was asked to bring the notebooks in again and he was able to enthuse one of the managers and ultimately the collection of notebooks was put before the Acquisitions Committee, who agreed to take them into their care, and on the 28th of March 2023, almost 9 years since the saga had begun, Terry was able to hand the notebooks over (Photo 4). With persistence, patience and connections thus ended the saga.

Photo 3

Photo 4

Staying in Touch

811 members have an email address
632 members have their email address published on the website.

If you wish to be included, please update your membership details or if you cannot access the members area of the website
contact membership@igkt.net

The most recent issues of *Knotting Matters* will now be available to read in the member's area of the website.

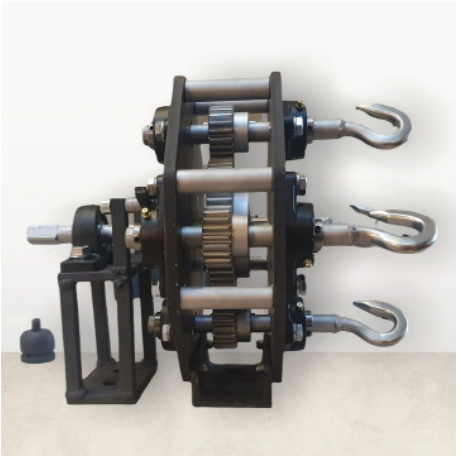
Rope Making Machine

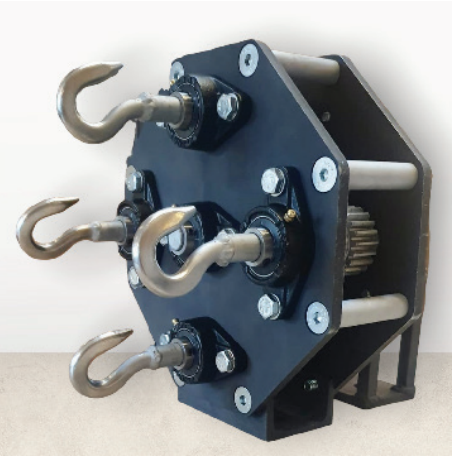
by Edward de Wit

It all started in 1984 when I was at the inland shipping school in Rotterdam and by our then boatswain who was on the “Prinses Beatrix” and waved the *ABOK* and got interested in making decorative knots. Years later, after my career in inland shipping (around 2020), I picked this up again when I saw videos on YouTube of various people making fun tutorials.

Later I felt the need to own a lot of meters of rope because of making picture frames but this became too expensive for me and not accessible enough to continue with. After self-study of how rope was made, I made my first rope machine, of bicycle parts and wood. I had come a long way, but not yet good enough. It had technical limitations, and it was all still very cumbersome and labor intensive.

In the meantime, I realized that there was a need for hard laid rope and especially the smaller diameters for the knotwork and of good quality within Europe. After trial and error, I had made the decision that with the current machine it could not continue like this and had to have a new decent rope machine, I knew exactly what I wanted... Only I couldn’t make it myself.





Editor’s note: I want one. Can you provide the supplies secretary details so this can be added to the Sales page?

After a good conversation with a colleague of mine at the work of the mechanical service, he wanted to make a new rope machine for me.After making a rough drawing and a description of what my needs and requirements were:

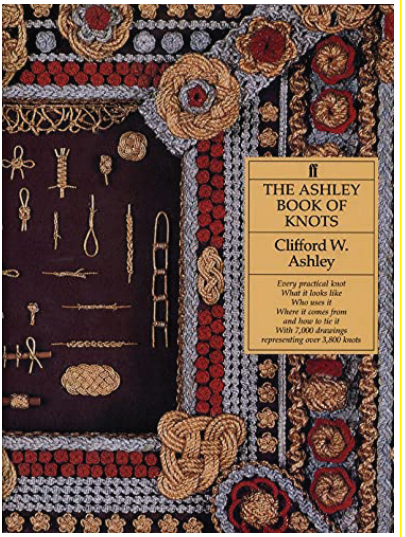
- *It should be a robust machine with a robust table and all this also mobile!*
- *Can rotate both left and right*
- *Robust, so can move a lot of weight (over 250kg)*
- *Larger hooks (to be able to use thicker yarn)*
- *Gears (ratio 1:3)*
- *A recoil protection for both left and right turning (ratchets)*
- *Operation must be both with a motor and drill and by hand*
- *A good table that can take a lot of weight and can't tip over....*

He set to work with these conditions and the result is impressive. For the weight I use tiles each 22kg heavy that I can store under the table and on top of the carriage. The hooks are M16 - 65mm in size. To prevent the table from tipping forward, I use two extra legs that are 45°, at the foot of those legs there are plates with a hole. the hole is for putting in an iron tent pole and the other plate is for when I am standing in grass, it can pull itself into the ground. The machine itself weighs 26kg and is about 30cm high.

The special thing about this machine is the recoil or ratchets for both left and right turning, these ensure that I can use my hands freely and work as a safety function because of the recoil of the hooks. (A lot of forces are released). In the meantime, I have been able to turn everything from natural fibres, poly-yarn to even rawhide that all need a different processing.

Currently, there are 5 same machines around the world.

edward.dewit @ telenet.be



See p 33. *ABOK* cover features knotwork of Bernard Cutbush!

My Knotted Artwork

by Roger Henry

I am grateful to David and Sheila Pearson of Yorkshire UK for encouraging me to write about my interest in knotting. I had shared some photos when I sent my apologies for not being able to attend meetings of what is my local branch.

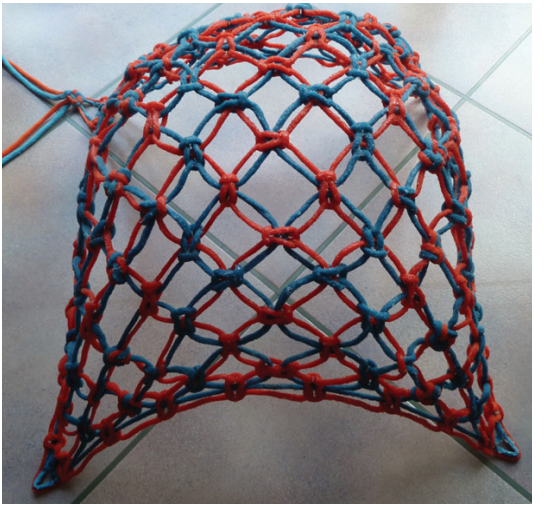
At the age of 78, I have been making pieces of knotted artwork over many years since retirement. My work is based on representing a range of patterns as knots and links, and in using knots to create those patterns. One part of that has taken me into the realms of mathematical knot theory. Indeed, it was only relatively recently that I was attracted to join IGKT when I saw the design of the logo. This is of particular interest to me in its use of a double strand of rope or cord in what is effectively a mathematical knot diagram. This is because I use double strands of cord in my own representations of mathematical knots, for rather different reasons - of which more later.

To begin at the beginning, my initial interest in creating knotted art work came from a visit to the Museum of Modern Art in Manhattan - when I was on a working trip to the US before retirement. WIth my wife Jan, we saw on exhibition the knotted chair by Marcel Wanders. Please follow the link https://www.marcelwanders.com/work/knotted-chair to see it in all its inspiring glory.

Here you see the use of double strands of cord albeit tied together in a relatively simple pattern. The interest comes from the three-dimensional construction and shape - we were ~~k~~not invited to take a seat!

Back home, then in the East Midlands of the UK, I did initially experiment with making more abstract three-dimensional pieces using Paverpol *https://paverpol.co.uk/* to harden the cord. This is just one example (p 42), but again you can see the use of double strands but introducing the use of two colours which highlights the underlying pattern by showing the joining reef (or square) knots in the

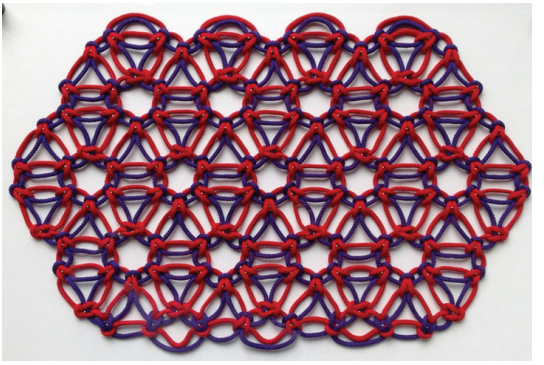
different colours. My apologies here to knotters with protanopia or similar sight anomalies if the difference is not obvious to them.



A more creative use of my techniques was inspired by the patterns in the Roman Paving at Byland Abbey - when I was more mobile and having moved to North Yorkshire.

I had become dissatisfied with the simplicity of the previous patterns and the Roman Paving gave me the inspiration I needed to search for something more. It is mounted on an A1 board.

Other experimentation led to my creation of this piece Using a softer cord. It is constructed from two continuous lengths of orange and blue and also mounted on an A1 board. See next page.



So, what of these knots from the branch of Mathematics known as Knot Theory? These are knots that are continuous loops in three dimensions - so they cannot be untied. Even a simple ring in three dimensional space is considered to be a knot. It is called the unknot or trivial knot as it can be flattened out and arranged with zero crossings. Please forgive the amateurish looking use of tape to create the single cord loops in these examples - there are photos of pieces with rather more skillfully made joins to come.

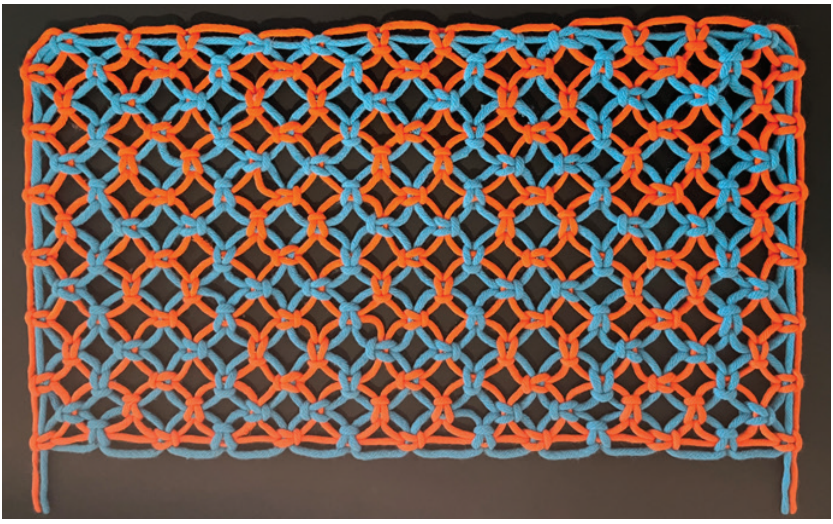
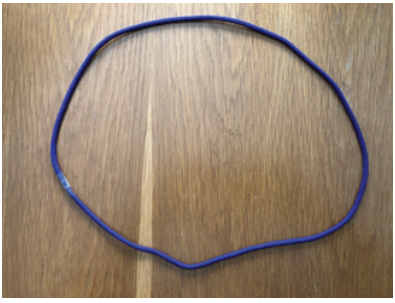


Photo 1

Any flattened loop with only one or two crossings can always have the number of crossings reduced to zero by manipulation. The lowest number of crossings needed to form a non-trivial knot is three. They must alternate between under and over-crossings when the flattened loop is traversed or followed around - otherwise it could still be manipulated to have zero crossings. The result is known as the trefoil - named after the shape of trifoliate plant leaves.



The Trefoil is an example of an *alternating* knot. Eight crossings are needed before there are cases of non-alternating knots.

There are two variants of the trefoil knot. For the one on the left, below, the cord was tied left-over-right and under then joined and re-arranged. The one on the right was tied right-over-left and under.

The arrows have been added to give an orientation to each knot. If the direction of an over-crossing is aligned with a thumb, for which hand does the direction

of the under-crossing align with the fingers? The answers explain why the version on the left is known as the left-handed trefoil while the one on the right is indeed right-handed.

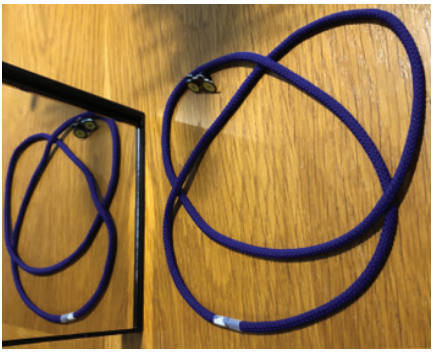
The trefoil is an example of what is known as an *invertible* knot - it can be manipulated, without cutting, to its inverse orientation. In the case of the trefoil, this is simply done by turning the flattened knot over.

You might like to try it for yourself and show that choosing the inverse orientation makes no difference as to whether the trefoil is left or right-handed.

All knots with a crossing number of seven or less are invertible. Most knots with a higher crossing number are non-invertible.

The trefoil is also an example of what is known as a *chiral* knot. There is no way in which one version of the trefoil can be manipulated to the other version - left or right-handed.

If you were to look at one version in a mirror though it would look like it was of the other handedness.



I used my bike badge against the original in an attempt to show that the mirror image also inverts the orientation.

I do not ride a bike at my age but I do use a battery assisted adult tricycle as my mobility aid. My obsession with knots extends to looking for cycling routes with bridges having paths over and under so I can ride a trefoil. I have not found one yet locally.

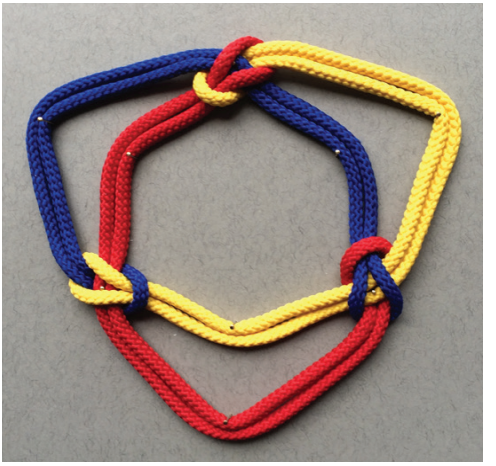
A mathematical *knot diagram* is a graphical representation of a knot, flattened or projected down to two dimensions, with the minimal number of crossings, but with a way of indicating the under and over relationship at crossings. The photos of my flattened knot examples are a form of knot diagram, as they do show the under and over relationships. *Ed. How did ChatGPT do? p 24*

A knot diagram is not itself the corresponding knot. Flipping a knot diagram is not the same as flipping a knot and making a diagram of the result. One way to see this is to draw a diagram of a trefoil on tracing paper and flipping it over. It will appear that the handedness has changed.

The trefoil is named knot 3-1, or 3_1, in tables of mathematical knots. Mirror images are not included. There is only one knot with 4 crossings, but two with 5, three with 6, seven with 7.

Rather than reproducing tables of mathematical knot diagrams here, I recommend a visit to the Knot Zoo by Robert G Scharein at *https://knotplot.com/zoo/*. Clicking on an icon for each knot diagram takes you to 3-D view of the knot that you can manipulate. I will give links to more extensive tables later.

In my knotted artwork, I take some artistic licence in creating diagrams of mathematical knots. Here is my representation of a right-handed trefoil.

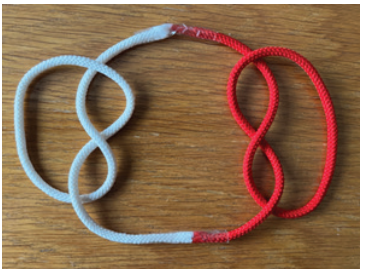


I use different colours of cord for each arc of the main loop between under-crossings. Each arc uses a length of doubled-up cord, forming its own loop, and the arcs are joined by tying reef knots (or square knots) around the corresponding arc that represents the over-crossing.

The consistent way in which the reef knots are tied gives a way of representing a chosen orientation for the knot. My convention is that, in this piece, that is clockwise, thinking of the upper, most visible, part of the reef knots as arrow heads. The colour sequence, red to yellow, yellow to blue, blue back to red, would also be kept to show the inverse (anti-clockwise) orientation.

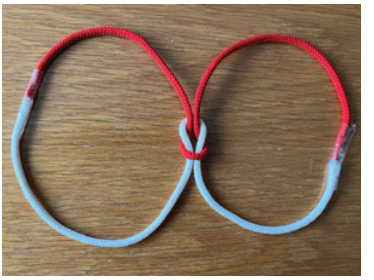
The mathematical square knot is an example of what is called a composite knot combining a left-handed and a right-handed trefoil.

To illustrate this, instead of joining the free ends of each knot and rearranging to form the normal look of a trefoil, the left-over-left-and-under overhand knot on the left has been joined to the right-over-right-and-under overhand knot on the right. (In case you are wondering, the rearrangement would involve flipping the body of the overhand knot over while keeping the free ends as they are.)



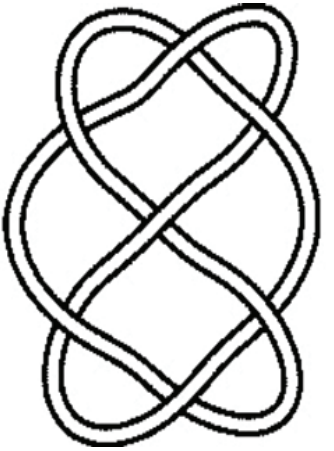
Next, I shuffled the entire loop around, to move the joins out of the way, and tightened the rest to reveal the reef knot.

So, my knot diagram of the trefoil can be said to be constructed from six trefoil knots!



Editor's note: "All the News That's Fit to Print" is ***The New York Times*** *motto, ours, seems to be, "All the News That Fits to Print". With apologies, I could not get the image of Knot 7-4 to fit with the accompanying text. Please see next page.*

Knot 7-4



Knots 5-1 and 7-1 look very similar to 3-1 and are known as the *cinquefoil* and *septafoil knots*. The similarity is down to the fact that all are examples of torus knots - in three dimensions they can be wrapped around a torus without any crossings.

Diagram 1

Diagram 1 is a knot 7-1 using my representation. As with the trefoil, there is an outer and an inner arc between each crossing.

Diagram 2 is a left-handed version, using the convention described for the trefoil, and shows the clockwise orientation.

To represent the inverse orientation of the left-handed version, the same colour sequence is followed with the connecting reef knots reversed.

Diagram 3 represents the mirror image of the original. It is righthanded and is also in the inverse orientation.

Diagram 2

I have so far created my representation of diagrams of every knot up to the first with seven crossings, shown with variations above, and one with eight crossings. They are each mounted on A4 boards. Some knots show a pleasing symmetry in their outlines and these are the ones I prefer. I include just one more here, for variation from the torus knot examples. It represents knot 5-2.

Knot 7-4 (previous page) is pleasingly symmetrical and is mathematically equivalent to the well-known Buddhist Endless Knot, the Celtic knot, and the Mongolian Ornament pattern. Making my own representation will likely be my next Knot Theory project.

Diagram 3

The IGKT logo (opposite page) is interesting in its representation of twisted rope. It is tempting to think that the direction of twist could be used to indicate a chosen orientation of a knot made in three-dimensions from twisted rope. The problem is though that the twist is chiral. Flipping a trefoil for example, to invert the orientation, would not flip the direction of twist.

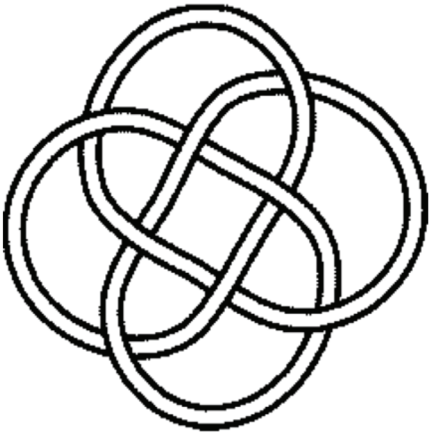
The cordage industry convention names the direction of twist used by the IGKT logo by the capital letter Z. The opposite twist is named by the capital letter S. The slope of the middle part of these letters corresponds to the slope of the twist. The Z twist corresponds to the twist in a drill bit. Pointing the thumb in the direction of drilling, the rotation of the bit would match the direction in which the fingers of the right hand would point. In the terms we have used, Z twist is right-handed and S twist is left-handed.

This convention has actually been standardised by ISO, the International Organization for Standards, in ISO 2 for which there is a Wikipedia entry. I mention this as, on a personal note, in a previous stage my life I was the Convener of an ISO Working Group (on the standardisation of a programming language).

The IGKT logo is a doubled-up diagram of knot 8-18 which is pleasingly symmetrical in its standard form. It is an invertible knot, alternating, but not chiral - check and you will find that there are four right-handed crossings matched by four left-handed crossings.

Turning the outer loops and inner crossings through the central square swaps the left and right-handed crossings. So it is equivalent to its mirror image. Do not ask if it is left or right-handed.

It is completely understandable, and appropriate, for the IGKT logo to use twisted rope in the logo as rope is often used in knotted mat making. Many Mat makers will recognise it as the basis of the Carrick Mat. This is well described of course, in *The Ultimate Encyclopaedia of Knots and Ropework* by Geoffrey Budworth - a prolific contributor to KM and indeed with an article on mat making in KM 158, p 26 and the pullout from Barbara Frankel.



The photo (top next page) is my attempt at making a 2-ply Carrick Mat. It shows the problem faced by mat-making knotters in how to join the ends if using a single length of cord when increasing the ply. The extra crossing would mean, of course that this was no longer a diagram of knot 8-18, but a different knot entirely.

The photo below it, on the right, is for a

similar knot with five outer loops and five corresponding inner crossings. It is mathematical knot 10-123 which is the basis for the Round Mat described by Geoffrey Budworth in his book.

2-ply Carrick Mat

He does not duck the issue in his photo of a 3-ply Carrick Mat and shows the extra crossing with the join in the two ends neatly hidden behind the next cross-over. This is not the case in the Wikipedia entry on the Carrick Mat which avoids the extra crossing by having three separate parallel lengths for each ply. The IGKT logo appears to do the same which is why I was happy to call it a mathematical knot diagram in my introduction.

There is a whole other area of knot theory which I will not go into in detail. This is the study of links. Two unknots that are linked once will have two crossings when flattened into a link diagram - an over-crossing for one loop corresponding to an under-crossing for the other loop. The photo shows a stick (straight-line) diagram of this simplest non-trivial link in a quilted cushion cover made by my wife, Jan.

It will be clear that the mathematical approach to knots and links is not concerned

Knot 10-123

with matters like strength or suitability in physical uses such as security and safety. Even a cursory study of the range of knot diagrams with relatively few crossings shows that most are not likely to be chosen for decorative use or for physical use - even if a cut was made to allow the knot to be tightened.

The interest for mathematicians is in constructing ways of representing knots and links that do not depend on graphical presentation and in developing proofs of the properties of the billions of knots. One particular important property is whether not it is prime or whether it can be manipulated without cutting into another knot or else constructed from a composition of other knots.

There is another case of use graphics to illustrate a mathematical concept in the *Venn diagram*. This is best known as using two overlapping circles - with the degree of overlap showing the extent to which two characteristics are shared. Take knotters and knitters. Some knotters also knit. Some knitters also knot. They would fall within the overlapping area of a circle for knotters and a circle for knitters.

Currently, I would not fall in the overlapping area but I might well do so before too long. The reason I say that is that knitting offers a nice solution to making continuous loops without resorting to hidden joins. (If you were wondering, the joins in individual loops in my knotted knot diagrams are hidden behind the reef knots.)

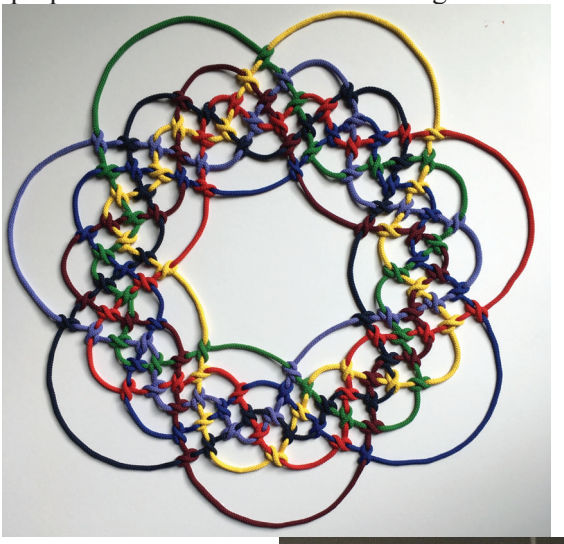
I thoroughly recommend downloading Chapter 6 of *Figuring Fibers*, published by the *American Mathematical Society*, which has the title Knitting Torus Knots and Links from https://bookstore.ams.org/mbk-119-6 by Sarah-Marie Belcastro.

Sarah-Marie also has an engrossing web site including pages starting *The Home of Mathematical Knitting* at http://www.toroidalsnark.net/mathknit.html even though it seems to be in need of some updating, it is well worth a look.

I have introduced the most important concepts of knot theory without going into the underlying mathematics. For on-line resources, the Wikipedia entries starting with https://en.wikipedia.org/wiki/Knot_theory are worth a look for the summaries but can rapidly get into the complexities of mathematical notation. For an extensive catalogue of prime knot and link diagrams there is *The Knot Atlas* at http://katlas.math.toronto.edu/wiki/Main_Page. Again, not well maintained but an important resource.

For books, it has to be *The Knot Book* by Colin C. Adams available for purchase and download from https://bookstore.ams.org/knot.

Before leaving the mathematical side of knotting, I show one more example this time using single-strand loops. This piece of mine represents a 7-way Venn diagram with cord enclosing all the different possible combinations of seven different colours. The cords correspond to the circumference of the circles in a conventional Venn diagram. The central area corresponds to all seven colours. Each outer area includes only one of the colours. There is an area corresponding to each the other possible combinations. The design emphasises symmetry rather than the proportions in which the colours might be shared.



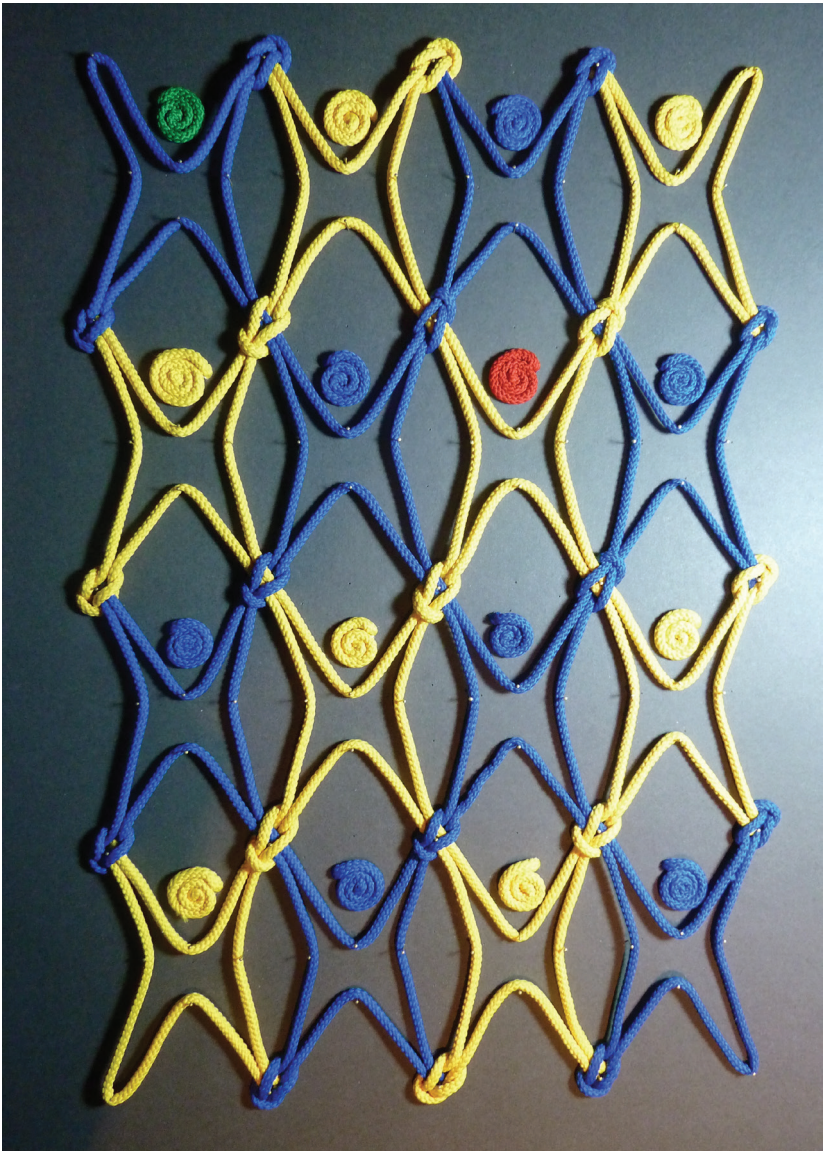
The cross-overs are tied using constrictor knots. The constrictor knots along each colour of cord alternate to represent under and over crossings - so technically the piece is an example of links constructed from knots.

To end on a lighter note, a few years ago now, I won the prize from Dr (now Professor) Hannah Fry of a signed copy of her book, written together with Dr Thomas Oléron Evans, *The Indisputable Existence of Santa Claus - The Mathematics of Christmas* for my entry of this illuminated Trefoil knot

And finally, a piece I presented to Humanists UK which they have on display in their conference room. It is based on their logo of the Happy Human.

All of my images are shared under the Creative Commons license Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0). See https://creativecommons.org/licenses/by-nc-sa/4.0/

Happy Knotting!



Chapter News

UK Based Member Needed

A vacancy has arisen in the KM editorial board for a UK based member who has experience of Adobe editing software or is happy to learn it. Has some idea of editing and producing print ready copy and happy to deal with our printers, Gipping Press. Applications to the secretary at secretary@igkt.net.

Members Across the World

Countries	Members
Australia	42
Austria	4
* Bahamas	1
Belgium	7
Brazil	1
* Bulgaria	1
Canada	27
* Croatia	1
* Cyprus	1
* Czech Republic	1
Denmark	6
Faroe Islands	1
Finland	15
France	16
Germany	24
Gibraltar	1
Hong Kong	2
Ireland	1
* Israel	1
Italy	11
Japan	1
* Latvia	1
* New Zealand	13
Northern Ireland	2
Norway	16
* Pakistan	1
Poland	4
Portugal	4
Romania	1
South Africa	1
Spain	3
Sweden	23
Switzerland	1
The Netherlands	21
UK	270
USA	315
Total Countries	36

* New Countries from May 2022 to end April 2023

Forthcoming IGKT Meetings

Autumn 2023 October 6 - 7, National Waterways Museum, Gloucester, UK. Details next page and on the website via the Latest News section.

AGM 2024 May 10th, Chatham Historic Dockyard, UK – and the wonderful 300m working ropewalk.

Autumn 2024 To be confirmed.

AGM 2025 To be confirmed.

Autumn 2025 Shaftsbury, Dorset UK.

Yorkshire - UK

Our Branch were very well represented at the recent AGM in New Brighton, and enjoyed all that had been arranged. ‘Well done’ to the organisers.

Our next Branch meeting will be on Sunday November 19th 2023. Subject to be decided. Before then various members will be at events as follows:

Saturday May 27th Rodley Nature Reserve Bird Fair

Saturday June 3rd Armley Mills Wool Festival

Sunday June 11th Oakwell Hall Fair To be confirmed.

Sunday June 25th Skipton Sheep Day.

September 17th Elland Show To be confirmed.

We invite any members to visit us at these events.

Before doing so, for further details, please contact David Pearson 0113 2572689

2023 IGKT Autumn
Exhibition and Symposium

Time: Friday October 6th and Saturday October 7th 2023

Place: National Waterways Museum, Llanthony Warehouse, The Docks, Gloucester, GL1 2EH

We are delighted to be returning to Gloucester after a gap of several years and hope you will be able to join us. As well as the exhibition, there will a number of talks in a museum-owned ship, moored alongside. Our exhibits will be spread through the museum and so it is essential that we know in advance whether you would like a display table.

There are two chain hotels within about 7 minutes walk (Travelodge and Premier Inn) and a small family-owned hotel (Spalite Hotel) only 2 minutes walk from the museum. There is a good campsite about 10 minutes drive away (Court Farm, GL2 9PX).

There are many cafés and restaurants in the vicinity and so we are not organising refreshments apart from the Knot Tyers Supper on Saturday.

IGKT Trustee, Peter Hennessey (peterwhennessey@hotmail.com), +44 (0)7 889 053 661, is registering applications for the event. Please let him have the following details when you apply:

1. Name(s) of people coming
2. Phone number
3. No. of display tables needed
4. Please let us know if you are willing to give a talk.

Your meal choices for the Knot Tyers Supper on Saturday 7th. The menu is online at https://www.highorchardpubgloucesterquays.co.uk/menus/

This form is also available on our website via the Latest News section of the home page and also at https://igkt.net/news/403-2023-igkt-autumn-meeting-and-exhibition-october-6th-7th-gloucester-uk?highlight=WzIwMjNd

Ed. Or use http://bit.ly/Oct-07-2023

Chapters

Australia

Contact: Robert Underhill
rvumoose@icloud.com
Tel: +61 488 777 785
34 Dawson Place, Donnybrook,
WA 6239 Australia

Belgium

Contact: Ronny Wouters
rcwouters@scarlet.be
Tel: +32(0)3 658 7937
Venue: Akkerlaan 24, 2900 Schoten,
België

Canada

Southern Ontario Knot Tyers
http://knotcanada.webs.com
Contact: John Staley
southern.ontario.knotyers@gmail.com
Tel: +1 905 389 2509
Venue: Hamilton, Ontario

France

www.igkt.fr
Contact: Jean-Pierre Durand
durand0547@orange.fr
Tel: +33(0)6 64 00 66 91

Germany

http://www.knotengilde.de/
Contact: Yuval Dvoran
info@knotengilde.de

Internationale Gilde der
Knotenmacher Deutsche Sektion e.V.
c/o Matthias Böving
Kappenstrasse 22
45473 Mülheim/Ruhr

Netherlands

Contact: André van der Salm
andrevdsalm@gmail.com
Tel: +31 (0) 625 067 174
Venue: Binnenvaart Museum,
Maasstraat 19, 3313 CR Dordrecht.

New Zealand

All enquries about this branch: contact the Guild's Web Administrator.

United Kingdom

Dorset - UK

Contact: Peter Goldstone
goldstonepg@aol.com
Tel: +44 (0)1725 516 258 or
Mobile: +44 (0)7702 733005
Venue: The Ship Inn, Custom House
Quay, Weymouth DT4 8BE

East Anglian - UK

Contact: Stuart Weston
pugwash1941@gmail.com
Tel: +44 (0)1449 674 327 or
+44 (0)7801 239 731
Venue: Windmill Room, Abbots Hall
Primary School, Danescourt Ave,
Stowmarket, Suffolk

Midlands - UK

Contact: Bruce Turley
bruce@btknots.co.uk
Tel: +44 (0)1214 534 124
Venue: The Old Swan Inn,
(Ma Pardoes), 89 Halesowen Road,
Netherton, Dudley, DY2 9PY

North West England - UK
Contact: Ian Rogers
iansrogers@aol.com
Tel: +44 (0)1606 590 729
Venue: Red Lion, 1 Wharton Rd, Winsford, Chester CW7 3AA and Tattenhall Marina, Newton Lane, Tattenhall, Chester CH3 9NE

Solent - UK
http://igkt-solent.co.uk
Contact: Chris Jenkins
igktchris@btinternet.com
Tel: +44 (0)2392 601 779
Venue: Fareham Sailing and Motor Boat Club, Lower Quay, Fareham, Hampshire PO16 0RA

Surrey - UK
www.surreyknots.org.uk
Contact: Tony Shellard
secretary@surreyknots.org.uk
Tel: +44(0)1483 502 156
Venue: Guildford District Scout Centre, Nightingale Road, Guildford, GU1 1ER

West Country Knotters - UK

Contact: Richard Hopkins
richardhopkins907@gmail.com
Tel: +44 (0)1179 867 146
Venue: Woodhouse Park Fernhill, Almondsbury, BS32 4LX

Yorkshire - UK
Contact: David Pearson
wayzegoose_uk@yahoo.co.uk
Tel: +44 (0)113 257 2689
Venue: Pudsey Scout Headquarters, The Lanes, Pudsey, LS28 7AS

United States of America

Alaskan Branch - USA
Contact: Charles Rigden
charles@rigdencpa.com
Tel: +(1) 928 231 2775
Venue: Anchorage Senior Center, 1300 East 19th Avenue, AK 99501

North American Branch - Knot in the Middle - USA
www.igktnab.org
Contact: John Staley
southern.ontario.knotyers@gmail.com
Tel: +(1) 905 389 2509

North American Branch - Mid-Atlantic Region - USA
All enquries about this branch: contact the Guild's Web Administrator.

Pacific Americas - USA
www.igktpab.org/
Contact: Peter Glick
PMGlick@gmail.com
Tel: +(1) 310 871 8611
Venue: Via Zoom, Contact Peter for details

All chapter details as on IGKT website on 16/May

back cover: IGKT President Mikko Snellman

IGKT SALES (Supplies Secretary, 10 Chine Avenue, Bittern, Southampton SO19 7JF UK)	**GBP**
A New System of Knotting by Harry Asher - A reprint. Asher's genius is shown really clearly	£7.00
A Sailor and his Knots - A unique reprint of Ashley's 1925 work	£10.00
A Practical Approach to Circular Knotworks by A and C Åström - Circular knots **2nd Edition**	£10.00
Knotty Potty by 'Jenny Wren', alias IGKT co-founder Geoffrey Budworth	£4.00
Plaited Moebius Bands by Geoffrey Budworth - A collection of knots with the properties of Moebius strips	£2.00
A Booklet of Lanyards by Willeke van der Ham - an easy to follow introduction to making lanyards	£4.00
Breast Plate Designs by Brian Field - Designs to make and wear	£3.00
Concerning Crosses and More by Brian Field - Flat Knots tied 'in hand'	£3.00
Knotted Novelties by Eric Franklin - Reprint of *Nylon Novelties*	£3.00
Turksheads the Traditional Way by Eric Franklin - A really useful introduction Reprinted 2022	£3.00
Knotcraft by Stuart Grainger - A much-loved book about decorative knotting	£4.00
Knotted Fabrics by Stuart Grainger - Making mats, covers, baskets, etc. A reprint of this popular work	£10.00
Turkshead Alternatives by Stuart Grainger - Decorative chains and grommets	£3.00
Breathing Apparatus Guidelines by Colin Grundy - A fascinating story	£4.00
A Comprehensive Text of Turk's Head Knots by James Harvey - A reprint of this great book	£16.00
The DIY Book of Fenders by Colin Jones - Does exactly what it says	£12.95
Advanced Knotting by Maurice McPartlan - An excellent DVD for complex 3D Turks Heads	£12.00
Decorative Woven Flat Knots (incl pdf) by Skip Pennock - Lots of terrific shapes	£12.50
Design and Make Rope Mats and Rosettes by Nils Kristian Rossing - Circular mats **2nd Edition**	£13.00
Charlie's Knots by Charlie Smith - Tying Turks Heads directly in the hand New edition	£3.00
A Fresh Approach to Knotting and Ropework by Charles Warner - A wonderful work with over 500 diagrams	£15.00
The Wee Lighthouse Knot by Pieter van de Griend	£4.00
Tramblings by Desmond Mandeville - Mandeville's work Reviewed and Edited by Geoffrey Budworth	£12.00
The Rope Menagerie and A Ropy Chess Set by Frank Brown - His first set of cord effigies (BandW)	£8.00
The String Zoo and The Cord Zodiac by Frank Brown - Many more ideas for small cord figures	£14.00
Monographs 1-14 by Des Pawson - Various prices, see full list on website	
Exploring Turks Heads Articles about Turks Heads from the first 150 issues of *Knotting Matters*	£14.00
IGKT Enamel Badge - *clasp or pin fitting*	£6.00
IGKT Cloth Badge	£5.00
IGKT Car Window Sticker	£2.00
IGKT Photographer's Scale Card - *indispensible for indicating the scale of a pictured subject*	£1.00

Please e-mail your order to supplies@igkt.net stating your full postal address to which the items should be sent. We will then send you a request for payment (including postage and packing) so that you can pay securely by PayPal, online, using any card.

If you do not use e-mail, please contact the IGKT Supplies Secretary, address above